WHAT IS CLAIMED IS:

1. In a network having a plurality of links between nodes and at least one node having an administrative module which provides error data for at least one link, a method of detecting network trouble comprising the steps of:

(a) detecting a data frame in a signal on a link;

(b) synchronizing the detection of errors in frames on said link to the timing of the detected data frame; and

(c) calculating the number of frames on said link having errors as an error rate per unit of time.

2. The method of claim 1 in which the error rate is calculated as frames errors-per second.

3. The method of claim 1 in which error detection for the present data frame is synchronized to the timing of a data frame detected in a sequence of data frames that is continuous with the present data frame.

4. The method of claim 1 in which bit error detection for the present data frame is synchronized to the timing of a data frame detected in a sequence of data frames that is not continuous with the present data frame.

5. A method of assembling a transmission performance profile for a circuit having multiple links in a network having a plurality of circuits and at least one node having an administrative module which provides error detection for at least one circuit, the method comprising the steps of:

detecting a data frame in a signal on a link;

synchronizing the detection of errors in frames on said link to the timing of the detected data frame;

calculating the number of frames on said link having errors as an error rate per unit of time; and

assembling the error rate per unit of time for the links in a given circuit.

6. In a telecommunications network having a plurality of circuits and a signaling network, said signaling network including a network-supervisor unit which stores trouble flags for circuits needing remedial action, and at least one node having an administrative module which provides error data for at least one circuit, a method of flagging troubled circuits comprising the steps of:

(a) detecting a data frame in a payload signal on a circuit;

(b) synchronizing bit error detection for said circuit to the timing of said respective detected data frame;

(c) detecting frames having bit errors on said circuit;

(d) calculating the number of frames having bit errors on said circuit as a cumulative error rate per unit of time for said circuit; and

(e) storing a trouble flag for each circuit having more than a predetermined rate of errors per unit of time.

7. Apparatus for flagging troubled circuits in an intelligent telecommunications network having a plurality of circuits, and a signaling network including a network supervisory unit which stores trouble flags for circuits needing remedial action and at least one signal transfer point (STP) having an administrative module which provides error data for at least one circuit, said apparatus comprising:

(a) means for detecting a data frame in a payload signal on each circuit;

(b) means for synchronizing bit error detection for said circuits to the timing of said respective detected data frame;

(c) means for detecting frames having bit errors on each circuit;

(d) means for calculating the number of frames in which bit errors are detected as a cumulative error rate per unit of time for each circuit; and

(e) means for storing a trouble flag for each circuit having more than a predetermined rate of errors per unit of time, whereby the protection of transmission quality and efficiency is improved.

8. Apparatus for detecting network trouble in a network having a plurality of links between nodes and at least one node having an administrative module which provides error detection for at least one link, said apparatus comprising:

means for detecting a data frame in a signal on a link;

means for synchronizing the detection of errors in frames on said link to the timing of the detected data frame; and

means for calculating the number of frames on said link having errors as an error rate per unit of time.

9. Apparatus for assembling a transmission performance profile for a circuit having a plurality of links in a network having a plurality of circuits and at least one node having an administrative module which provides error detection for at least one circuit, said apparatus comprising:

means for detecting a data frame in a signal on a link;

means for synchronizing the detection of errors in frames on said link to the timing of the detected data frame;

means for calculating the number of frames on said link having errors as an error rate per unit of time; and

means for assembling the error rate per unit of time for the links in a given circuit.

10. The apparatus of claim 9 in which bit error detection for the present data frame is synchronized to the timing of a data frame detected in a sequence of data frames that is continuous with the present data frame.

11. The apparatus of claim 9 in which bit error detection for the present data frame is synchronized to the timing of a data frame detected in a sequence of data frames that is not continuous with the present data frame.

12. In an intelligent telecommunications network having a plurality of circuits and a signaling network, said signaling network including a network-supervisor unit which stores trouble flags for circuits needing remedial action, and at least one signal transfer point (STP)

having an administrative module which provides error data for at least one circuit, apparatus for flagging troubled circuits comprising:

(a) means for detecting a data frame in a payload signal on each circuit;

(b) means for synchronizing bit error detection for said circuits to the timing of said respective detected data frame;

(c) means for detecting frames having bit errors on each circuit;

(d) means for calculating the number of frames having bit errors on each circuit as a cumulative error rate per unit of time for each circuit; and

(e) storing a trouble flag for each circuit having more than a predetermined rate of errors per unit of time.

13. Apparatus for flagging troubled circuits in an intelligent telecommunications network having a plurality of circuits, and a signaling network including a network supervisory unit which stores trouble flags for circuit needing remedial action and at least one signal transfer point (STP) having an administrative module which provides error data for at least one circuit, said apparatus comprising:

(a) means for detecting a data frame in a payload signal on each circuit;

(b) means for synchronizing bit error detection for said circuits to the timing of said respective detected data frame;

(c) means for detecting frames having bit errors on each circuit;

(d) means for calculating the number of frames in which bit errors are detected as a cumulative error rate per unit of time for each circuit; and

(e) means for storing a trouble flag for each circuit having more than a predetermined rate of errors per unit of time, whereby the protection of transmission quality and efficiency is improved.